

Appl. No. 09/675,220
Amendment dated:
Reply to OA of: May 6, 2004

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

1.-5. (canceled)

6. (currently amended) ~~The method of claim 5.~~ A method for controlling temperatures in a semiconductor manufacturing apparatus including a reaction chamber and a plurality of heating sources, comprising the steps of:

determining a set of power ratios to be fed to the heating sources for each of at least one selected temperature by using plural temperature sensors; and

controlling a given temperature by performing power control on the heating sources based on at least one set of power ratios obtained in the determining step by using one or more temperature sensors, and said temperature controlling step is carried out by using a P (proportional), an I (integral) and a D (derivative) operation outputs and power ratios corresponding to the given temperature, the power ratios corresponding to the given temperature being determined based on one or two sets of power ratios determined in the determining step, and wherein a controlled power output for a heating source is determined by applying a first power ratio to multiplied by the I operation output and is different from a second power ratio to multiplied by the P and the D operation outputs output.

7. (currently amended) ~~The method of claim 5.~~ A method for controlling

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temperatures in a semiconductor manufacturing apparatus including a reaction chamber and a plurality of heating sources, comprising the steps of:

determining a set of power ratios to be fed to the heating sources for each of at least one selected temperature by using plural temperature sensors; and

controlling a given temperature by performing power control on the heating sources based on at least one set of power ratios obtained in the determining step by using one or more temperature sensors, and said temperature controlling step is carried out by using a P (proportional), an I (integral) and a D (derivative) operation outputs and power ratios corresponding to the given temperature, the power ratios corresponding to the given temperature being determined based on one or two sets of power ratios determined in the determining step, and wherein a controlled power output for a heating source is determined by multiplying a power ratio only by the I operation output.

8. (currently amended) ~~The method of claim 5,~~ A method for controlling temperatures in a semiconductor manufacturing apparatus including a reaction chamber and a plurality of heating sources, comprising the steps of:

determining a set of power ratios to be fed to the heating sources for each of at least one selected temperature by using plural temperature sensors; and

controlling a given temperature by performing power control on the heating sources based on at least one set of power ratios obtained in the determining step by using one or more temperature sensors, and said temperature controlling step is carried out by using a P (proportional), an I (integral) and a D (derivative) operation outputs and power ratios corresponding to the given temperature, the power ratios corresponding to the given temperature being determined based on one or two sets of power ratios determined in the determining step, and wherein a controlled power

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output for a heating source is determined by multiplying the P, the D and the I operation outputs by a power ratio during processing a wafer and is determined by multiplying the power ratio only by the I operation output when loading a wafer into the reaction chamber.

9. (currently amended) ~~The method of claim 1, A method for controlling temperatures in a semiconductor manufacturing apparatus including a reaction chamber and a plurality of heating sources, comprising the steps of:~~

determining a set of power ratios to be fed to the heating sources for each of at least one selected temperature by using plural temperature sensors; and

controlling a given temperature by performing power control on the heating sources based on at least one set of power ratios obtained in the determining step by using one or more temperature sensors, wherein the number of temperature sensors used in the determining step is greater than the number of temperature sensors used in the controlling step, and wherein said at least one set of power ratios is selected by using a target temperature.

10. (currently amended) ~~The method of claim 1, A method for controlling temperatures in a semiconductor manufacturing apparatus including a reaction chamber and a plurality of heating sources, comprising the steps of:~~

determining a set of power ratios to be fed to the heating sources for each of at least one selected temperature by using plural temperature sensors; and

controlling a given temperature by performing power control on the heating sources based on at least one set of power ratios obtained in the determining step by using one or more temperature sensors, wherein the number of temperature sensors used in the determining step is greater than the number of temperature

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sensors used in the controlling step, and wherein said at least one set of power ratios is selected by using a target temperature when loading a wafer into the reaction chamber and is selected by using a measured temperature during processing a wafer.

11.-27 (canceled)